CLAIMS

What is claimed is:

1. A method of implementing a fast dynamic channel allocation escape procedure in a wireless communication system, comprising:

a pre-code allocation procedure;

a signal-independent code allocation procedure, including:

checking the availability of a code set in the cell;

checking the transmission power of a candidate timeslot;

checking if the interference signal code power (ISCP) for other timeslots is lower than the ISCP of the candidate timeslot;

generating timeslot sequences for the available timeslots;

assigning a code set to the available timeslots in a timeslot sequence, wherein a successful assignment is a solution;

calculating the ISCP for each solution; and

selecting the solution having the lowest weighted ISCP as an optimal solution; and

a post-code allocation procedure.

2. The method according to claim 1, wherein the pre-code allocation procedure includes:

receiving a trigger signal;

obtaining wireless transmit/receive unit (WTRU) measurements and Node B measurements;

retrieving cell configuration information and WTRU information from a centralized database;

determining a candidate coded composite transport channel to be reassigned;

determining a candidate code set to be reassigned; and

obtaining a list of the available timeslots from the centralized database.

3. The method according to claim 1, wherein the post-code allocation procedure includes:

storing new allocation information in a centralized database; and

creating a physical channel reconfiguration request message.

4. A method of implementing a fast dynamic channel allocation escape procedure in a wireless communication system, comprising the steps of:

receiving a trigger signal to initiate the escape procedure;

processing the trigger signal;

retrieving wireless transmit/receive unit (WTRU) measurements from a centralized database;

retrieving Node B measurements from the centralized database;

determining physical resources to be reassigned;

retrieving a list of available timeslots from the centralized database;

retrieving WTRU capability information from the centralized database;

allocating a code set to the available timeslots in a timeslot sequence;

storing the allocation information in the centralized database; and

sending a physical channel reconfiguration request message containing the allocation information.

5. The method according to claim 4, wherein the WTRU measurements include downlink interference signal code power.

6. The method according to claim 4, wherein the Node B measurements include:

common measurements, including uplink interference signal code power and downlink transmitted carrier power; and

dedicated measurements, including downlink transmitted code power.

7. The method according to claim 4, wherein the determining step includes:

determining a candidate coded composite transport channel (CCTrCH) to be reassigned;

determining a candidate code set to be reassigned; and

retrieving a list of available timeslots to be reassigned.

8. The method according to claim 7, wherein the candidate CCTrCH to be reassigned is determined by how the escape procedure is triggered.

9. The method according to claim 8, wherein

the escape procedure is triggered by a too high downlink (DL) interference signal code power (ISCP) of a WTRU in a timeslot, the DL ISCP being contained in the WTRU measurements; and

the candidate CCTrCH is the CCTrCH of the WTRU in the timeslot.

10. The method according to claim 8, wherein

the escape procedure is triggered by a too high uplink (UL) interference signal code power (ISCP) in a timeslot, the UL ISCP being contained in the Node B measurements; and

the candidate CCTrCH is the CCTrCH having the code with the highest value of signal to interference ratio target plus pathloss.

11. The method according to claim 8, wherein

the escape procedure is triggered by a too high Node B transmitted carrier power in a timeslot, contained in the Node B measurements; and

the candidate CCTrCH is the CCTrCH having the code with the highest Node B transmitted code power.

12. The method according to claim 7, wherein the candidate code set is determined based on if the updated ISCP of the given timeslot is less than the ISCP threshold, or if the updated timeslot transmitted power is less than the transmitted power threshold after this set of codes is removed from the timeslot which has a link problem.

13. The method according to claim 4, wherein the WTRU capability information includes:

the uplink WTRU capability information; and

the downlink WTRU capability information.

14. The method according to claim 13, wherein the uplink WTRU capability information includes:

the maximum number of uplink timeslots per frame; and

the maximum number of uplink physical channels per timeslot.

15. The method according to claim 13, wherein the downlink WTRU capability information includes:

the maximum number of downlink timeslots per frame; and

the maximum number of downlink physical channels per frame.

16. The method according to claim 4, wherein the allocating step includes:

checking the availability of a code set in the cell;

checking the transmission power of a candidate timeslot;

checking if the interference signal code power (ISCP) for other timeslots is lower than that of the candidate timeslot;

generating timeslot sequences from the list of available timeslots; and

assigning a code set to the available timeslots in a timeslot sequence to find a solution, wherein a successful assignment is a solution.

17. The method according to claim 16, wherein the allocating step further includes:

calculating an ISCP value for each solution; and

selecting the solution having the lowest weighted ISCP value as an optimal solution.

18. The method according to claim 4, wherein the storing step includes recording physical channel information in the centralized database.

19. The method according to claim 18, wherein the physical channel information includes:

dedicated physical channel timeslot information;

a repetition period value; and

a repetition length value.

20. The method according to claim 19, wherein the dedicated physical channel timeslot information includes:

the timeslot number;

a midamble shift and burst type;

a transport format combination indicator presence; and

code information.

21. The method according to claim 20, wherein the code information includes:

a channelized code;

a code usage status;

a dedicated physical channel identification; and

a code signal to interference target.

22. The method according to claim 4, wherein the sending step includes filling the physical channel reconfiguration request message.

23. The method according to claim 22, wherein physical channel reconfiguration request message includes:

the WTRU identification;

a controlling radio network controller identification;

a radio link identification;

a radio resource control transaction identification;

uplink coded composite transport channel (CCTrCH) information; and

downlink CCTrCH information.

24. The method according to claim 23, wherein the CCTrCH information includes dedicated physical channel (DPCH) information.

25. The method according to claim 24, wherein the DPCH information includes DPCH timeslot information.

26. The method according to claim 25, wherein the DPCH timeslot information includes:

the timeslot number;

the midamble shift and burst type;

the transport format combination indicator presence; and

the code information.

27. The method according to claim 26, wherein the code information includes:

the DPCH identification; and

the channelization code.